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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/609,178	06/30/00	DERI	IL 10504

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EXAMINER	
WOOD, R	
ART UNIT	PAPER NUMBER
2874	

DATE MAILED: 10/12/01

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

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Office Action Summary

Application No.

09/609,178

Applicant(s)

DERI ET AL.

Examiner

Kevin S Wood

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 June 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: Ben Hays

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: In Fig. 2, reference number (13) is shown, but not included in the specification. In Fig. 4, the reference numbers (F1) and (F2) are shown, but not included in the specification.

Correction is required.

2. The drawings are objected to because the specification refers to reference number (22) in Fig. 3 as an arrow, while the drawing does not show an arrow.

Correction is required.

Specification

3. The disclosure is objected to because of the following informalities: On page 9, line 24, the word "grading" should be changed to "grating". Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-14, 16, 19, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 1 is indefinite. It is unclear as to how a diffraction grating works in a fully non-blocking manner. *N equals any number of the same comment* The definition of N in the claim is also unclear. Is $N=0$? If so, then the device is inoperative. *see page 2, lines 10-30*

Claim 2 recites the limitation "the group of coupler and wavelength selective elements" in the second line of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitations "said coupler" and "the group" in the first two lines of the claim. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 is indefinite. The device is required to have a coupler selected from a group consisting of directional couplers and wavelength-selective couplers. Therefore, the device may or may not include a wavelength-selective coupler. A wavelength-selective coupler has not been distinctly claimed.

Claim 5 recites the limitation "said first mentioned diffraction grating" in the second and third lines of the claim. There is insufficient antecedent basis for this limitation. The second diffractive grating should be referred to as a second diffractive grating for clarity.

Claim 6 is indefinite. It is unclear what identical means for the diffraction gratings in this claim. In what way are the diffraction gratings to be identical? *all ways*

Claim 7 is indefinite. It is unclear what collection optic assembly means. *see specification* Is it a lens system for receiving the light from the gratings and directing it to the outputs? The second diffractive grating should be referred to as a second diffractive grating for clarity.

Claim 8 is rejected as being inclusive of other rejected claims.

Claim 9 is indefinite. It is unclear what is meant by different. How are the filters different? *see specification*

Claim 10 is indefinite. The definition of N is unclear. *is known in art as any number of some components*

Claim 11 is rejected as being inclusive of other rejected claims.

Claim 12 is indefinite. It is unclear to the examiner, which outputs are being reflected, and to which diffraction grating are the outputs are reflected through. *explain*

Claim 13 is indefinite. The definition of n is unclear. *wrong*

Claim 14 is rejected as being inclusive of other rejected claims.

Claim 16 is indefinite. It is unclear what is meant by intermediate wavelength density.

Claim 19 recites the limitation "said means" in the first line of the claim. There is insufficient antecedent basis for this limitation. The claim should be rewritten to refer to "said means for combining at least a portion of said outputs" which has sufficient antecedent basis. *unnecessary since only one "means" is recited*

Claim 20 recites the limitations "the group" in the second line of the claim. There is insufficient antecedent basis for this limitation in the claim. *wrong*

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

7. Claims 1-3, and 5 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,243,178 to Suemura et al.

Referring to Claim 1, Suemura et al. discloses all of the limitations of the claimed invention in Fig. 4-7. Fig. 6 discloses a multiplexer that includes a diffraction grating (105), Fig. 7 discloses a demultiplexer that includes a diffraction grating (117), Fig. 4 and 5 disclose the combination of the multiplexer and demultiplexer where there are N inputs, N outputs, and N wavelengths.

Referring to Claim 2, Suemura et al. discloses all of the limitations of the claimed invention. The diffraction grating in the demultiplexer is augmented by a multiplexer, which is a directional coupler. The diffraction grating in the multiplexer is augmented by the demultiplexer, which is a wavelength selective device.

Referring to Claim 3, Suemura et al. discloses all of the limitations of the claimed invention. The multiplexer and demultiplexer are directional couplers.

Referring to Claim 5, Suemura et al. discloses all of the limitations of the claimed invention. The diffraction grating in the demultiplexer receives the outputs from the diffraction grating in the multiplexer.

Referring to Claim 15, Suemura et al. discloses a coupler (109) for combining the outputs of the multiplexer's diffraction grating.

8. Claims 16 and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,208,692 to McMahon.

Referring to Claim 16, McMahon discloses all the limitations of the claimed invention. See Fig. 6, 7B, and 7C.

Referring to Claim 17, McMahon discloses all the limitations of the claimed invention. The Littrow Mount transmultiplexer in Fig. 7B is a directional coupler.

9. Claims 16, 19, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,088,496 to Asghari.

Referring to Claims 16, Asghari discloses all the limitations of the claimed invention. See Fig. 1 and the respective portion of the text.

Referring to Claim 19, Asghari discloses all the limitations of the claimed invention. Asghari discloses two diffraction gratings (3) and (4).

Referring to Claim 20, Asghari discloses all the limitations of the claimed invention. Asghari discloses a re-direction optic (1).

Conclusion


10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin S Wood whose telephone number is (703) 605-5296. The examiner can normally be reached on Monday-Thursday (7am - 5:30 pm).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney B Bovernick can be reached on (703) 308-4819. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 307-0956.

ksw
October 9, 2001


Brian Healy
Primary Examiner